

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
25 October 2001 (25.10.2001)

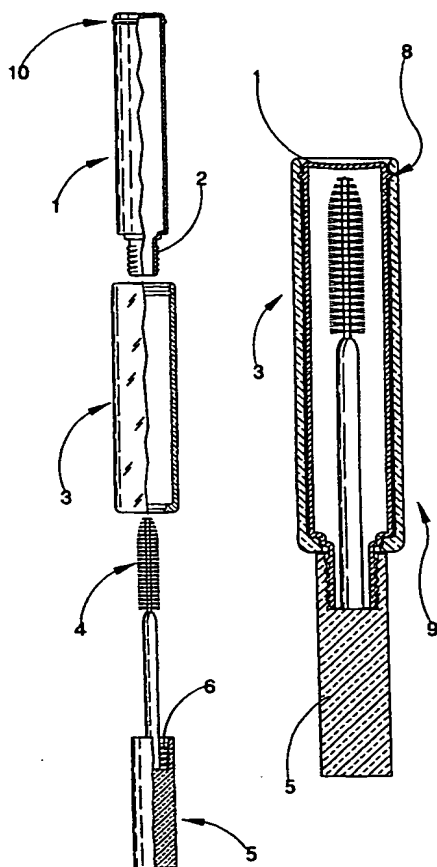
PCT

(10) International Publication Number  
**WO 01/78551 A1**

- (51) International Patent Classification<sup>7</sup>: A45D 40/26, 34/04
- (21) International Application Number: PCT/IT01/00138
- (22) International Filing Date: 20 March 2001 (20.03.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
RE2000A000032 19 April 2000 (19.04.2000) IT
- (71) Applicants (*for all designated States except US*): FF CONSULT S.R.L. [IT/IT]; Piazza XXV Aprile, No. 1, I-42100 Reggio Emilia (IT). BDL S.N.C. DI DAVOLI ELIO & C. [IT/IT]; Via Gasparini, No. 10/1, I-42100 Reggio Emilia (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): BERTAZZA, Luciano [IT/IT]; Via Ca' Dell'Ora, No. 12/B, I-24018 Villa D'Almé (IT). DAVOLI, Elio [IT/IT]; Via Carrobbio No. 21, I-42010 Arceto Di Scandiano (IT).
- (74) Agent: COLLI, Alfonso; Bugnion S.p.A., Via Roma, No. 38, I-42100 Reggio Emilia (IT).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European

[Continued on next page]

(54) Title: A CONTAINER FOR COSMETIC PRODUCTS



(57) Abstract: The invention relates to a container (9) for cosmetic products in general constituted by an extractable cartridge (1), by an outer body (3), and by a cap (5). Removable locking means (8) are provided between cartridge and outer body.

WO 01/78551 A1



patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

DescriptionA Container for Cosmetic ProductsTechnical Field

5 The present invention relates to a container for cosmetic products in general, and more in particular for those liquid or paste products, with high moisture content, such as the so-called "mascara" or any lacquer for emphasising eyelashes or eyebrows; or also any lotion for cosmetic or even medical use, to be applied on parts of the body by means of a tool such as a small brush.

Background Art

10 It is known that currently such products are packaged in a predetermined weight in containers which may be more or less important in terms of shape complexity and of the materials whereof they are made, such containers being mostly closed by the simple screwing of a cap.

15 Such known containers are generally filled, in a non standardised manner and not contiguously to their product, also using barrels of larger or smaller size supplied to third parties who then provide for retail packaging to the public.

20 These production and distribution systems entail several drawbacks.

A first drawback is connected to possible manipulation of the product during the filling of individual containers, there being the possibility of various kinds of pollution (for instance bacteriological), due not only to manipulation during production, but also to the distribution carried out in small containers which are closed but not sealed or in large containers which presuppose storage and transfers with high risk of contamination.

25 In other words, since the container of the product is not sealed, enriched as it may be by materials, shapes, and even prestigious marks, the possibility nonetheless exists that the container could fail to meet the criteria of hygienic safety and

commercial correctness required by the final consumer.

A consequence of this way of packaging known containers is constituted by the uncertain possibility of tracing the production lot (date, origin, etc.).

There are also environmental drawbacks connected to the disposal of the containers once their content is exhausted.

Once the product contained is exhausted, the whole container with any small tools contained therein (for instance brushes, scrapers, small sponges for applying the products, etc.) is thrown away, thus creating an environmental damage and a waste.

#### Disclosure of Invention

The aim of the present invention is to overcome the aforesaid drawbacks, providing a container for cosmetic or medical products in general which is completely recyclable, and allows on one hand an absolute guarantee on the integrity of the content, and on the other hand quality control over the entire history of the lot wherefrom the product comes.

Said aims are fully achieved by the container for cosmetic product of the present invention, which is characterised by the contents of the claims set out below and in particular in that it comprises a recyclable and sealable cartridge, provided with means for locking to an outer body able to be disengaged axially by applying a simple thrust.

#### Description of the Drawings

This and other features shall become more readily apparent from the description that follows of a preferred embodiment illustrated, purely by way of non limiting example, in the accompanying drawing tables, in which:

- Figure 1 shows a view of the outer body;
- Figure 2 shows an "exploded" view of the invention, which comprises three elements: refill cartridge, outer body, cap connected to the brush for applying the

product;

- Figure 3 shows a view of the invention in its complete structure, perfectly closed;
- Figure 4 and Figure 5 show the procedures for extracting the exhausted cartridge from the invention;
- Figure 6 shows the procedure for inserting the new cartridge, virgin and sealed;
- Figure 7 shows the extraction of the seal from the cartridge;
- Figure 8 and Figure 9 show the procedure for the definitive introduction and setting of the cartridge in the outer body, with the related positioning of the applying brush and of the closure cap;
- Figure 10 shows a detail of the disengageable locking means between cartridge and outer body.

#### Description of the Illustrative Embodiment

With reference to the aforesaid figures, the reference number 1 indicates a cartridge made of plastic material, specifically of polyethylene for food products, constituted by an elongated cylindrical body provided with a threaded mouth 2; the reference number 3 indicates a hollow outer body wherein the cartridge 1 can be inserted, and locked in a disengageable manner by means of the interference of locking means 8 constituted by the elastic interference of an annular edge 10 with a related recess 11, the edge and the corresponding recess 11 being obtained on opposite parts of the cartridge 1 and of the body 3.

The reference 4 indicates a known brush for applying the product, the reference 5 indicates a general closure cap with related threaded seat 6 which is destined to co-operate with the thread 2 of the cartridge 1.

The reference number 7 indicates an adhering film, heat sealed to the threaded mouth 2 of the cartridge 1, serving as a seal removable by tearing.

The reference number 8 indicates locking means between the cartridge 1 and the body 3, disengageable by the simple application of an axial thrust; said locking

means are constituted by a projecting edge 10 which interferes elastically on a corresponding groove 11, such means being obtained respectively on the cartridge 1 and on the body 3.

In a possible variation, such means can be obtained in an inverted manner, i.e. respectively the projecting edge on the body 3 and the groove on the cartridge 1.

The operation is as follows.

The container is shown in its elementary components in Figures 1 and 2, whereas Figure 3 shows the container assembled and ready for use.

Once the product is exhausted, the cartridge 1 is replaced through the partial counter-clockwise unscrewing of the cap (see Figure 4) with the consequent partial extraction of the panel; a pressure is then exerted on the cap (see Figure 5) until the cartridge is unlocked from the outer body and the cartridge is fully extracted after completely unscrewing the cap from the package.

Subsequently, as shown in Figure 6, a new virgin cartridge is partially introduced in the outer body, the heat-sealed sealing film 7 is removed (see Figure 7) and by the clockwise screwing of the cap/brush the cartridge is driven all the way into the interior of the body, until the slight projection 10 of the cartridge matches and snaps into the corresponding recess 11 of the body.

Figure 9 shows the final outcome of this introductory operation which is made easy by the particular conformation of the screw that has a thread with asymmetrically shaped teeth, so that considerable force can be exerted during the screwing operation.

The cartridge 1 is manufactured with polyethylene for food products; for its fabrication, known injection and blowing techniques are used.

The testing conducted allows to state that the invention, thanks to its basic components made of sterilisable polyethylene offers, from the hygienic and health standpoint, more guarantees than products that use conventional materials.

The invention has several advantages.

First of all, the cartridge 1 made with polyethylene for food products allows,

unlike most PVCs or other materials, to be subjected to a sterilisation treatment with gamma rays during the phase preceding the filling operation.

Once the filling operation is complete, the cartridge is heat sealed with a film 7 which guarantees that the product will be protected from oxidising agents, thus preserving its genuineness longer.

The consumer will thereby have a guarantee of product conformity, with the related hygienic and health protection.

The particular configuration of the product, constituted by a hollow packaging or outer body 3 that is completely separate from the internal cartridge, allows, once the content of the cartridge is exhausted, to recover or recycle the cartridge, preserving the outer body 3 for a subsequent re-use with a new replacement cartridge 1.

Moreover, the particular conformation of the cartridge allows noticeable savings on transportation and storage costs, savings on primary packaging, and considerable improvements to the automation and product standardisation process.

Claims

1. A container (9) for cosmetic, or medical products in general, characterised in that it is constituted by three pieces: a hollow outer body (3), a cartridge (1), a closure cap (5).

5 2. A container as claimed in claim 1, characterised in that the cartridge (1) is closed with a seal that can be broken at the time of use.

3. A container as claimed in claim 1 or 2, characterised in that the cartridge (1) is a refill cartridge.

10 4. A container as claimed in claim 1, 2 or 3, characterised in that the cartridge (1) is made of polyethylene.

15 5. A container (9) as claimed in claim 1, characterised in that the cap (5) collaborates by means of a thread (6) with the threaded mouth (2) of the cartridge (1).

20 6. A container as claimed in all previous claims, characterised in that between the outer body (3) and the cartridge (1) means (8) are provided for the removable locking of the two parts.

25 7. A container (9) as claimed in the previous claim 6, characterised in that said locking means (8) are constituted by the elastic interference between a projecting edge (10) and an annular recess (11).

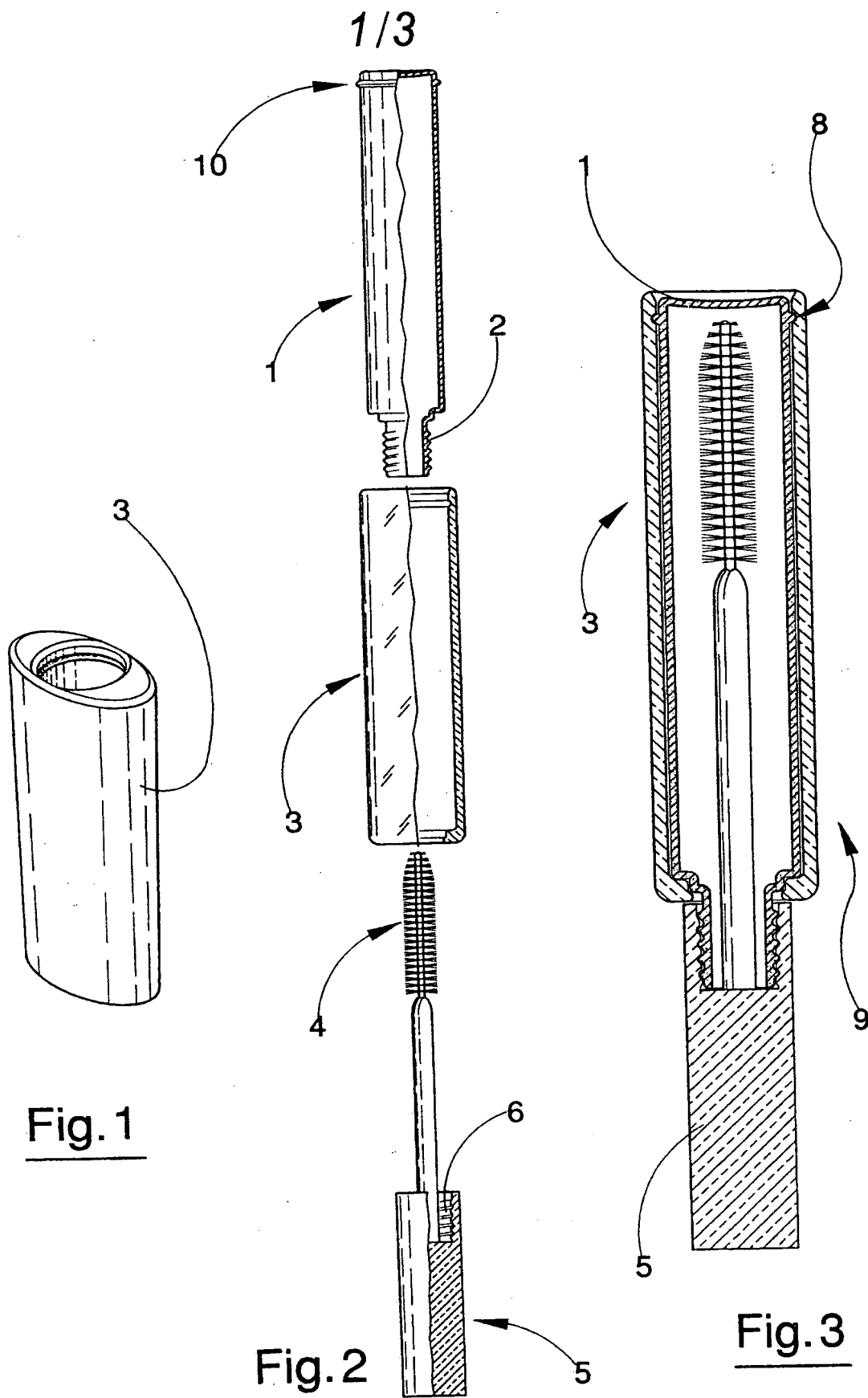
8. A cartridge (1) for refilling containers of cosmetic products in general, characterised in that it is made of polyethylene, it has a threaded mouth closed with



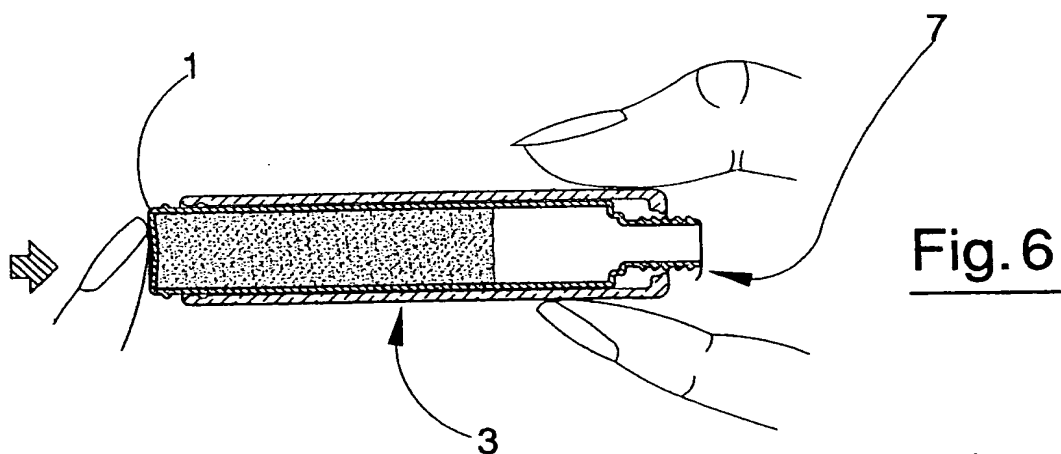
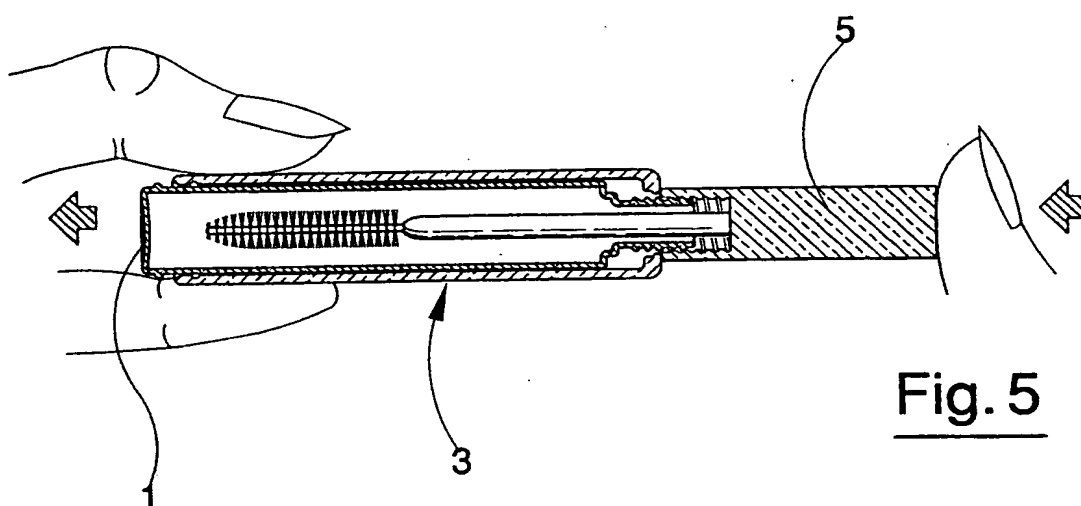
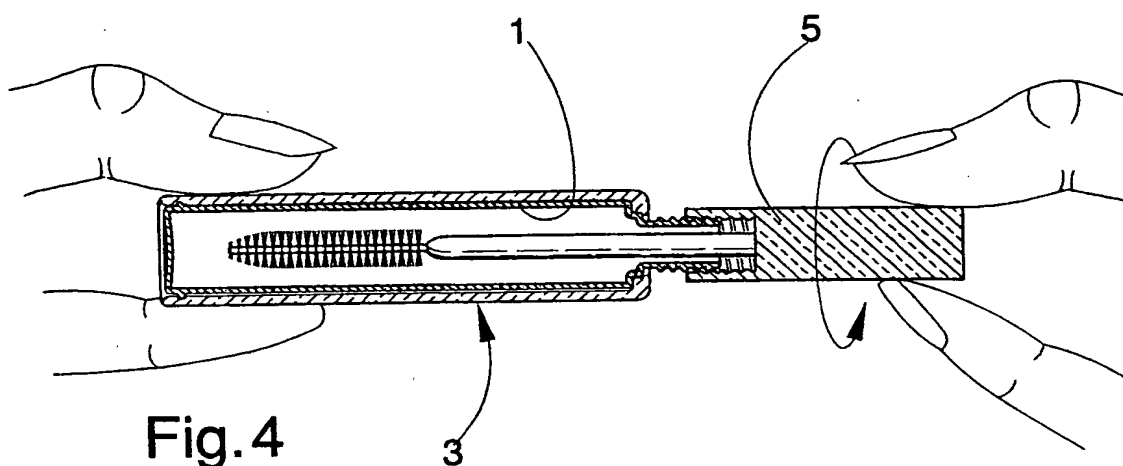
sealing film, and it provides with external removable locking means constituted by a projecting annular edge (10).

O

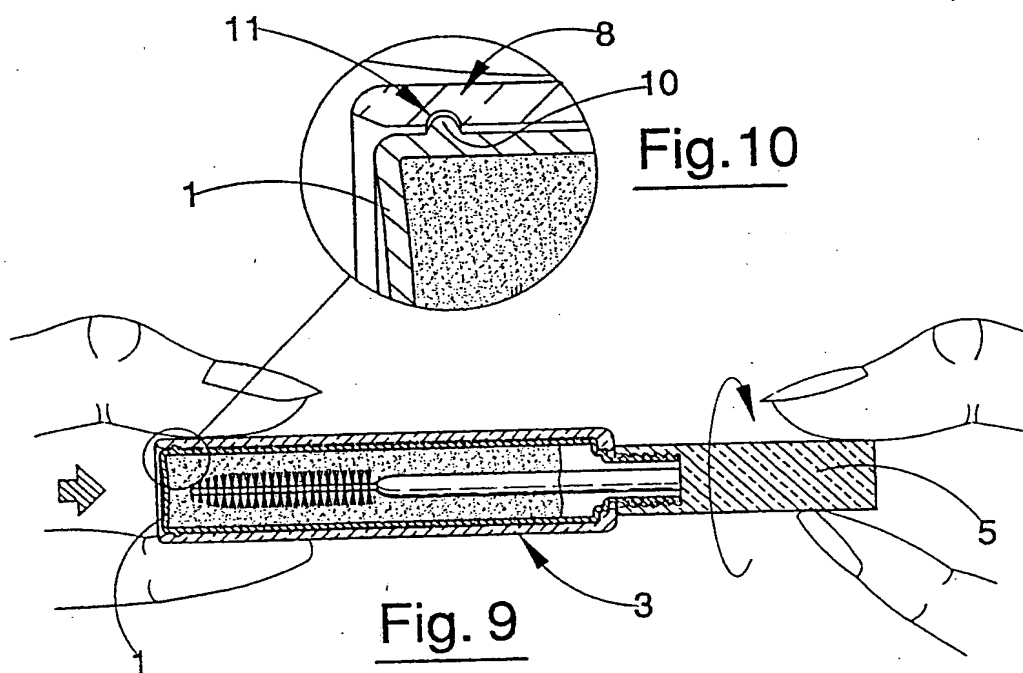
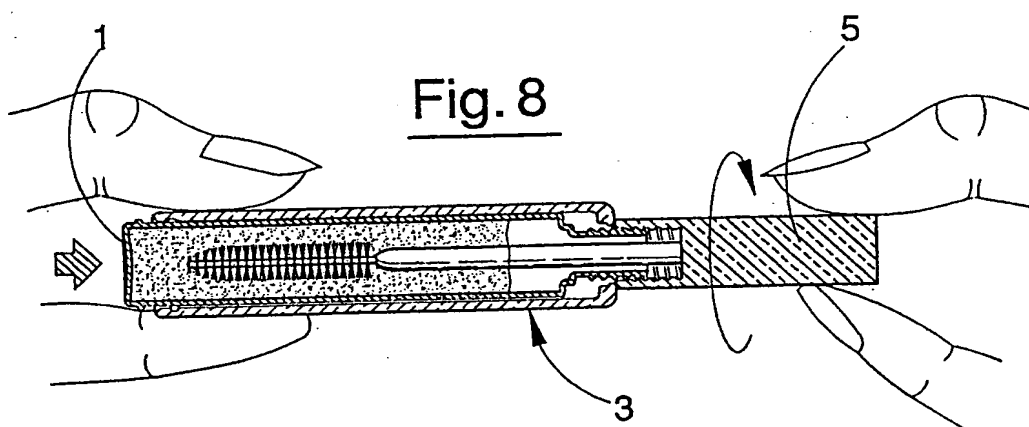
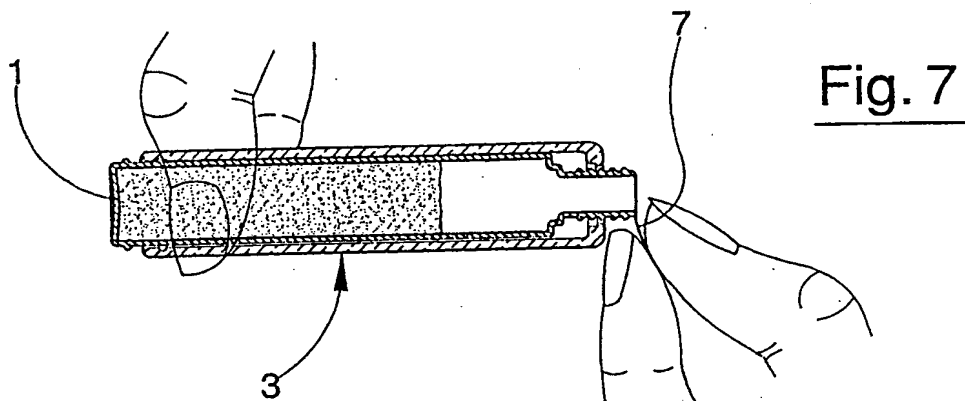
O



2/3



3/3



## INTERNATIONAL SEARCH REPORT

International Application No

PC/IT 01/00138

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 A45D40/26 A45D34/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A45D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	EP 0 468 265 A (BEIERSDORF AG) 29 January 1992 (1992-01-29) claims 1,6,7	1-3,6,7 10
X A	FR 2 682 019 A (FISCHER MICHEL) 9 April 1993 (1993-04-09) claim 1	1-3,5 8
X A A	ES 2 113 773 A (POCINO SENDER JOSE LUIS) 1 May 1998 (1998-05-01) the whole document US 5 611 687 A (WAGNER EUGENE C) 18 March 1997 (1997-03-18) the whole document	1-3,5,6 4,8 1,4,8



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

9 August 2001

Date of mailing of the international search report

21/08/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040. Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

Authorized officer

Claudel, B

**THIS PAGE BLANK (USPTO)**

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCI/IT 01/00138

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0468265 A	29-01-1992	DE 9010979 U JP 6115563 A	31-10-1990 26-04-1994
FR 2682019 A	09-04-1993	NONE	
ES 2113773 A	01-05-1998	NONE	
US 5611687 A	18-03-1997	NONE	

35

0

**THIS PAGE BLANK (USPTO)**

0